

REMARKS

This Response is submitted in reply to the final Office Action mailed on March 12, 2010. A Request for Continued Examination ("RCE") is submitted herewith. The Director is authorized to charge \$405.00 for the RCE and any additional fees that may be required, or to credit any overpayment to Deposit Account No. 02-1818. If such a withdrawal is made, please indicate the Attorney Docket No. 3712161-98 on the account statement.

Claims 1, 6, 8, 14-15 and 18-20 are pending in this application. Claims 2-5, 7, 9-13 and 16-17 were previously canceled. In the Office Action, Claim 8 is objected to; Claims 1, 6, 8, 14-15 and 18-20 are rejected under 35 U.S.C. §112; and Claims 1, 6, 8, 14-15 and 18-20 are rejected under 35 U.S.C. §103. In response, Claims 1, 6, 8 and 14-15 have been amended, Claim 18 has been canceled, and Claims 21-23 have been added. The amendments do not add new matter. In view of the amendments and/or for the reasons set forth below, Applicants respectfully submit that the rejections should be withdrawn and the application now passed to allowance.

Applicants submit a new Table 1 to correct translation errors. During the translation from document WO 2004/056192, the terms "distarch adipate" and "distarch phosphate" were erroneously translated as "starch Diadipate" and "starch Diphosphate". In addition, for examples GB 14/0 to GB 14/4, the term "phosphate" was erroneously translated as "adipate". The newly submitted Table 1 corrects these mistakes.

In the Office Action, Claim 8 is objected to. In response, Applicants have amended Claim 8 to address the informalities cited by the Patent Office. Applicants have further added new Claims 21-23. Claim 21 is supported in U.S. Patent Publication No. 2006/0134311, at paragraph 63. Claim 22 is supported in U.S. Patent Publication No. 2006/0134311, at paragraph 48. Claim 23 is supported in U.S. Patent Publication No. 2006/0134311, at paragraphs 41 and 43-44. Applicants respectfully submit that Claims 21-23 be allowed.

In the Office Action, Claims 14 and 18 are rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the enablement requirement. In response, Applicants have canceled Claim 18 and amended independent Claim 14 to recite that the starch matrix has a network comprising homocrystallites and/or heterocrystallites.

In the Office Action, Claims 1, 6, 8, 14-15 and 18-20 are rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In response, Applicants have amended Claims 1, 14 and 18 to remove the terms VS and NS. Claims 8, 14-15 and 18 have also been amended to clarify the scope of the claims. The amendments to Claim 6 and 14 are supported in U.S. Patent Publication No. 2006/0134311, at paragraph 60.

Based on at least these noted reasons, Applicants believe that Claims 1, 6, 8, 14-15 and 18-20 fully comply with 35 U.S.C. §112, first and second paragraphs. Accordingly, Applicants respectfully request that the rejections of Claims 1, 6, 8, 14-15 and 18-20 under 35 U.S.C. §112 be withdrawn.

In the Office Action, Claims 1, 6, 8, 14 and 18 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,262,191 to Chakraborty et al. ("*Chakraborty*") in view of the printed publication to Fennema ("*Fennema*") and the printed publication to Hui ("*Hui*"). Applicants respectfully traverse the rejection for at least the reasons set forth below.

Applicants have amended independent Claim 1 to recite a candy having a starch matrix comprising a) a first starch having an amylose content of less than 20% and a DPn of more than 1000, and b) a second starch having an amylose content of more than 23% and a DPn of less than 300. The second starch is capable of forming a microcrystalline-crosslinked network with the first starch. The amendment is supported in U.S. Patent Publication No. 2006/0134311, at paragraph 42.

Applicants surprisingly found that candy, based on a starch matrix with rubber-elastic properties and high to very high elongations at break, especially with textures very comparable to the textures of products based on gelatin, can be obtained. The solution lies between the two main groups of candy based on starch. It consists of a starch matrix, which, on the one hand, has a high amorphous portion and, on the other, a defined starch network with a low network density. Descriptively, the inventive starch matrix with the amorphous portion has a structure component, which, as is the case with former gummy bears on a starch basis, exhibits a viscous behavior. However, this structure can be intensified and rubber-elastic property characteristics can be introduced by adjusting the network to be defined and minimal.

In comparison to previous jelled candy based on starch, the network has a clearly reduced network density. On the one hand, the linkage points of the network are sufficient for preventing viscous flow of the amorphous portion of the structure and, on the other, the network density is slight or the connecting elements between the linkage points are long enough, so that the structure can be subjected to high deformations without tearing the network. Moreover, in the unstressed state of the matrix, the connecting elements are in a state of high entropy or in a tangled state and can be stretched when stressed. The restoring force, comparable with that of gum, has its basis in the entropy elasticity.

In the stricter sense, the claimed invention is therefore related to the production of such defined networks with rubber elastic property features. Compared to proteins, which, in the case of gelatin, form a network, starch macromolecules are comparatively rigid and inelastic, as a result of which the adjustment to a rubber elastic behavior is made more difficult. However, this problem can be eased by using large starch macromolecules and/or by modifying and, especially, substituting the macromolecules. By elongating hydroxyl groups of the anhydroglucose units of starch macromolecules, for example, by hydroxypropylation, additional degrees of freedom of the macromolecules arise, as a result of which the mobility increases.

In contrast, Applicants respectfully submit that the cited references are deficient with respect to the present claims. The cited references alone or in combination fail to disclose or suggest a first starch having a DP_n of more than 1000 in combination with a second starch having a DP_n of less than 300 as required by independent Claim 1. Moreover, the cited references do not recognize the advantages and benefits of such a combination to make a candy, and the skilled artisan would have no reason in the absence of hindsight to combine the references to arrive at the claimed invention.

The Patent Office asserts that, even though *Chakraborty* does not disclose the feature "degree of polymerisation ("DP_n")", it would have been obvious for a person skilled in the art to use first and second starches with a DP_n as recited by independent Claim 1. Applicants respectfully disagree and submit that, in light of the teachings of *Chakraborty*, a person skilled in the art would have no reason to use a first starch having a DP_n of more than 1000 to arrive at the claimed invention.

According to *Chakraborty*, the starch jelly gum is prepared by employing the mogul method, i.e., a special moulding method using starch molds that is typically used in that field. See *Chakraborty*, column 6, lines 5-7 (“the starch jelly candy formulation is deposited into a mold”) and example 2 (“deposited into starch molds”). To be suitable for being deposited into molds, a starch formulation must have a low viscosity. This may be achieved by either: 1) using either only small amounts of a native, not degraded starch (typically up to 5 % in water are possible in maximum) or, 2) when higher starch amounts are desired (which is typically the case) using a degraded starch.

A person skilled in the art is well aware of the fact that there exists a strong correlation between the molecular weight of the starch and the viscosity of the respective starch solution. Without the pending application as a template, a person skilled in the art would conclude from *Chakraborty* that the low amylose, low viscosity starch will not have a DP_n of more than 1000 but a much lower DP_n. This is because the skilled artisan would expect that, when using a starch having a DP_n of more than 1000, the respective starch formulation would not be suitable for being deposited into a mold. This applies all the more because *Chakraborty* preferably uses 40 % to 90 % by weight of the low amylose, low viscosity starch. See *Chakraborty*, column 4, lines 1-6.

Finally, according to *Chakraborty*, the low amylose, low viscosity starch may be an oxidized starch. The skilled artisan understands that an acetylated and oxidized starch of potato typically has a DP_w of less than 200 (wherein DP_w >> DP_n). This further supports that *Chakraborty* teaches towards a first starch having a much lower DP_n as required by Claim 1.

Based on the previous discussion, in view of the skilled person's general knowledge at the time the claimed invention was made, *Chakraborty* clearly teaches away from a formulation comprising a first starch having a DP_n of more than 1000. Rather, based on the whole teaching of *Chakraborty*, the skilled person is directed to use a first starch having a much lower DP_n.

What the Patent Office has done is to rely on hindsight reconstruction of the claimed invention. Applicants respectfully submit that it is only with a hindsight reconstruction of Applicants' claimed invention that the Patent Office is able to even attempt to piece together the teachings of the prior art so that the claimed invention is allegedly rendered obvious. Instead, the claims must be viewed as a whole as defined by the claimed invention and not dissected into

discrete elements to be analyzed in isolation. *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1548, 220 USPQ 303, 309 (Fed. Cir. 1983); *In re Ochiai*, 71 F.3d 1565, 1572, 37 USPQ2d 1127, 1133 (Fed. Cir. 1995). One should not use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d at 1075. (Fed. Cir. 1988).

In sum, the cited references fail to disclose or suggest each and every element of independent Claim 1. Moreover, the cited references fail to even recognize the advantages, unexpected benefits and/or properties of a candy having a starch matrix in accordance with the present claims. For at least the reasons discussed above, Applicants respectfully submit that independent Claim 1, along with the claims that depend from Claim 1, are novel, nonobvious and distinguishable from the cited references.

Accordingly, Applicants respectfully request that the rejection of the pending claims under 35 U.S.C. §103 be withdrawn.

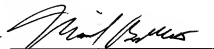
Claims 15 is rejected under 35 U.S.C. §103(a) as being unpatentable over *Chakraborty, Fennema, Hui* in further view of the printed publication to Igoo ("*Igoe*"). Claims 19-20 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Chakraborty, Fennema, Hui* in further view of U.S. Patent No. 5,458,892 to Yotka et al. ("*Yotka*"). Applicant respectfully submits that the patentability of Claim 1 as previously discussed renders moot the obviousness rejection of Claims 15 and 19-20 that depend from Claim 1. In this regard, the cited art fails to teach or suggest the elements of Claims 15 and 19-20 in combination with the novel elements of Claim 1.

For the foregoing reasons, Applicants respectfully request reconsideration of the above-identified patent application and earnestly solicit an early allowance of same. In the event there remains any impediment to allowance of the claims which could be clarified in a telephonic interview, the Examiner is respectfully requested to initiate such an interview with the undersigned.

Respectfully submitted,

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